LISTING OF CLAIMS

Claims 1 to 158 (previously cancelled)

159. (Previously amended): A method of stimulating expression of at least one defensin in a mammal in need thereof, by directly exposing epithelial cells of the mammal to a compound comprising soluble CD14 or a polypeptide portion of CD14 that enhances said expression, or a conservatively substituted variant of said CD14 or the portion that enhances said expression.

160. (Cancelled)

161. (Previously amended): The method of claim 159, comprising exposing the small intestine of a said mammal to an effective amount of a said compound.

162. (Previously amended): The method of claim 159, comprising exposing the respiratory tract of a said mammal to an effective amount of a said compound.

163. (Previously amended): The method of claim 159, wherein the CD14 has an amino acid sequence selected from the group consisting of SEQ ID No:4, SEQ ID No:5, SEQ ID NO:6, SEQ ID NO:7, and conservatively substituted variants of SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

Claims 164 to 169 (Cancelled)

170. (Previously presented): The method of claim 159, wherein the compound comprises CD14 obtained from a mammalian mammary secretion.

171. (Previously presented): The method of claim 170, wherein the CD14 is obtained from bovine milk.

172. (Previously presented): The method of claim 170 wherein, if the secretion has been previously subjected to a treatment step, the treatment step is sufficiently mild to

permit preservation of CD14 activity for inducing or stimulating defensin production in epithelial cells.

173. (Previously presented): The method of claim 170, wherein the CD14 is contained in a liquid.

174. (Previously presented): The method of claim 173, wherein the liquid comprises a fraction of the milk enriched in said CD14.

175. (Previously presented): The method of claim 170, wherein said CD14 is contained in an edible product.

176. (Previously presented): The method of claim 170, including administering the CD14 to the mammal orally.

177. (Withdrawn): A method for determining the suitability of a product derived from a mammary secretion for use in inducing or stimulating defensin production in mammals, the method comprising the steps of:

providing a sample of the product; and

determining the amount of CD14 present in the sample.

178. (Withdrawn): The method of claim 177, wherein, if the secretion has been previously subjected to a treatment step, the treatment step is sufficiently mild to permit preservation of the CD14 activity for inducing or stimulating said defensin production, and/or optionally, wherein determining the amount of CD14 present in the sample includes exposing the sample to an antibody which is specific for CD14, and ascertaining whether antibody-CD14 complex is formed in the exposing step.

179. (Cancelled)

180. (Previously presented): The method of claim 162 including administering the compound in the form of an aerosol.

181. (Withdrawn): A method of preparing a medicament, a dietary source or masticable product for use in directly stimulating defensin production in a mammal, method comprising the steps of:

providing a stock solution containing protein of a mammary secretion;

separating, optionally precipitating, from the solution a concentrate comprising endogenous CD14; and

determining the concentration of CD14 in the concentrate,

wherein, the mammary secretion can comprise milk, whole milk, a protein-containing portion of whole milk, or colostrum, and/or
wherein, if the secretion has been previously subjected to a treatment step, the treatment step is sufficiently mild to permit preservation of the CD14 activity for inducing or stimulating defensin production.

182. (Withdrawn): The method of claim 181, wherein the mammary secretion is bovine.

183. (Withdrawn): The method of claim 181, wherein the solution is a liquid solution and the separating step includes salting out of proteins from the solution, and optionally, wherein determining the concentration of CD14 includes exposing a sample obtained from the concentrate to a first antibody specific for CD14 to form an antibody-CD14 complex and subsequently exposing the complex to a second antibody specific for CD14, wherein the second antibody includes a reporter molecule,
wherein determining the concentration of CD14 can include exposing a sample obtained from the concentrate to a first antibody specific for CD14 to form an antibody-CD14 complex and subsequently exposing the complex to a second antibody specific for the first antibody, wherein the second antibody includes a reporter molecule.

184. (Withdrawn): The method of claim 181, wherein the precipitating step includes increasing the salt concentration of the solution to obtain an ioinic strength at least as high as would be obtained by combining a saturated aqueous solution of ammonium sulphate with a volume of a said mammary secretion, the volume of the ammonium sulphate solution being equal to 65 percent of the total volume of the combined solutions.

185. (Withdrawn): The use of a mammary secretion in a method of preparing a medicament, a dietary source or masticable product for use in directly stimulating defensin production in a mammal, method comprising the steps of:

providing a composition containing protein of the mammary secretion;

exposing the composition to an antibody which is specific for CD14; and

determining whether CD14 endogenous to the secretion is present in the sample based on whether CD14-antibody complex has formed in the exposing step.

186. (Withdrawn): The method of claim 185 wherein, if the secretion has been previously subjected to a treatment step, the treatment step is sufficiently mild to permit preservation of the CD14 activity for inducing or stimulating defensin production, optionally comprising the further step of determining the concentration of CD14 in the sample.

187. (Previously presented): The method of claim 159, wherein the polypeptide is contained in concentrated milk.

188. (Previously amended): The method of claim 159, including the step of direct topical exposure of the epithelium of the trachea to the compound.

189. (Previously amended): The method of claim 159, including the step of exposing the compound to the outer epidermis of a said mammal.

190. (Withdrawn): A method of preparing an ointment for direct topical application to a wound of human skin for ameliorating the effects of infection, particularly bacterial infection, thereof, comprising incorporating into the ointment an effective amount of a concentrate comprising CD14 obtained from a mammary secretion, or a polypeptide of claim 159.

191. (Withdrawn): A dietary source such as infant formula, milk or other liquid having added thereto a fraction of a milk product, the fraction including a higher concentration of CD14 than occurs naturally in the unfractionated milk product, wherein the milk product is one which has not been treated by a process which denatures the CD14 contained therein to the extent that CD14 loses the desired activity, particularly the ability to stimulate defensins in epithelial cells.

192. (Cancelled)

193. (Previously presented): The method of claim 159, where the mammal a human suffering from immune deficiency.

194. (Previously presented): The method of claim 159, wherein the mammal is a human and the at least one defensin is a human defensin.

195. (Withdrawn): A method of directly activating B cells using a soluble polypeptide having the amino acid sequence selected for the group consisting of leu-leu-leu-leu-leu-leu-pro-ser (SEQ ID NO:9); leu-leu-leu-leu-leu-leu-pro-leu (SEQ ID NO:10); and leu-leu-leu-leu-leu-leu-val-his (SEQ ID NO:11); and which is specifically recognized by the monoclonal antibody 3C10 and which activates B cells, by administering to a mammal in need thereof an effective amount of said polypeptide.

196. (Cancelled)

197. (Cancelled)

198. (Previously presented): The method of claim 194, wherein the at least one defensin is selected from the group consisting of HNP1, HNP2, HNP3, and combinations thereof.

199. (Previously presented): The method of claim 159, wherein said compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

200. (Previously amended): The method claim 199, wherein the compound is a protein obtained from a mammalian mammary secretion.

201. (Previously amended): The method of claim 200, wherein the protein is obtained from bovine milk.

202. (Previously presented): The method of claim 201, wherein the protein comprises the amino acid sequence identified as SEQ ID NO:4.

Claims 203 to 221 (Cancelled)

222. (Previously presented): A method of stimulating the expression of a defensin in a mammal, the method comprising directly exposing epithelial cells of the mammal to an isolated protein comprising an amino acid sequence selected from the group of amino acid sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, and SEQ ID NO:7.

223. (Previously presented): The method of claim 222, wherein the said amino acid sequence is the amino acid sequences identified as SEQ ID NO:4.

224. (Previously presented): A method of prophylactically treating a lipopolysaccharide-induced host inflammatory response in a mammal, the method comprising directly exposing epithelial cells of the mammal to an isolated protein comprising an amino acid sequence selected from the group of amino acid sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, and SEQ ID NO:7.

225. (Previously presented): The method of claim 224, wherein the said amino acid sequence is the amino acid sequences identified as SEQ ID NO:4.

226. (Previously presented): A method of enhancing expression of defensins in a mammal in need thereof, the method comprising directly exposing epithelial cells of the mammal to an isolated protein comprising an amino acid sequence selected from the group of amino acid sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, and SEQ ID NO:7.

227. (Previously presented): The method of claim 226, wherein the said amino acid sequence is the amino acid sequences identified as SEQ ID NO: 4.

228. (Previously presented): The method of claim 180, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, or a conservatively substituted variant thereof.

229. (Previously presented): The method of claim 228, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

230. (Previously presented): The method of claim 229, wherein the compound comprises an amino acid sequence identified as SEQ ID NO:4.

231. (Previously presented): The method of claim 162, including administering the compound as an intranasal aerosol.

232. (Previously presented): The method of claim 161, including administering the compound in a solid form.

233. (Previously presented): The method of claim 232, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as

SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, or a conservatively substituted variant thereof.

234. (Previously presented): The method of claim 233, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

235. (Previously presented): The method of claim 234, wherein the compound comprises an amino acid sequence identified as SEQ ID NO:4.

236. (Previously presented): The method of claim 161, including administering the compound in a form in which said CD14, said portion or said variant is protected until it reaches the small intestine.

237. (Previously presented): The method of claim 236, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, or a conservatively substituted variant thereof.

238. (Previously presented): The method of claim 237, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

239. (Previously presented): The method of claim 238, wherein the compound comprises an amino acid sequence identified as SEQ ID NO:4.

240. (Previously presented): The method of claim 159, including administering the compound in a solid form.

241. (Previously presented): The method of claim 240, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, or a conservatively substituted variant thereof.

242. (Previously presented): The method of claim 241, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

243. (Previously presented): The method of claim 242, wherein the compound comprises an amino acid sequence identified as SEQ ID NO:4.

244. (Previously presented): The method of claim 159, including administering the compound as a chewy substance which releases said CD14, said portion or said variant upon mastication.

245. (Previously presented): The method of claim 244, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, or a conservatively substituted variant thereof.

246. (Previously presented): The method of claim 245, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

247. (Previously presented): The method of claim 246, wherein the compound comprises an amino acid sequence identified as SEQ ID NO:4.

248. (Previously presented): The method of claim 159, wherein administering the compound includes topically applying the compound to the outer epidermis of the mammal.

249. (Previously presented): The method of claim 248, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, or a conservatively substituted variant thereof.

250. (Previously presented): The method of claim 249, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

251. (Previously presented): The method of claim 250, wherein the compound comprises an amino acid sequence identified as SEQ ID NO:4.

252. (Previously presented): The method of claim 159, wherein administering the compound is administered in a sustained-release formulation.

253. (Previously presented): The method of claim 252, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7, or a conservatively substituted variant thereof.

254. (Previously presented): The method of claim 253, wherein the compound comprises an amino acid sequence selected from the group of sequences identified as SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

255. (Previously presented): The method of claim 254, wherein the compound comprises an amino acid sequence identified as SEQ ID NO:4.